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AUTHOR Burrows, Enid R.
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ABSTRACT

This monograph is aimed at helping the reader understand the built-in logic of various calculator operating systems. It is an outgrowth of workshop contacts with in-service and pre-service teachers of mathematics and is in response to their request for a book on the subject of calculator logic systems and calculator algorithms. The mathematical concepts of function and binary operation are used and reviewed to help readers design effective calculator algorithms for evaluating a variety of mathematical expressions. Exercises are included throughout the book and answers in the final chapter. Alternative strategies for determining the answer to the same problem are discussed. Topics include: (1) "Binary Operations in Algebraic Logic (AL) and Algebraic Operating Systems (AOS)"; (2) "Functions"; (3) "Addressable Memory"; (4) "Exponentiation and Additional AL and AOS Strategies"; (5) "Reverse Polish Notation (RPN)"; (6) "Working with Very Large or Very Small Numbers"; and (7) "Approximating Solutions to General Polynomials and Transcendental Equations". (KR)

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